

Abstract

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An improved magnesium die casting system incorporates filling of the shot sleeve from the underside and/or in-line re-melting of scrap magnesium using a re-melt furnace. A pump is used to transfer molten magnesium from a casting furnace to the shot sleeve through an underflow filling tube. The shot sleeve is filled in a laminar manner, minimizing entrapped gases. The in-line re-melt system allows recycling of scrap in-house and reduces energy cost associated with heating and re-heating scrap. The improved system increases casting quality and reduces scrap rates and recycling costs.